VideoDR-C user's manual

User's manual version 3.0 (may 2007)

This manual applies to program version 3.0.0.80

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1. Introduction

We present to you next version of VDRS AV system with many new functions and modules. Many of these changes are the effects of our cooperation with you and our Partners. Part of these are our ideas which extend capabilities of digital video recording. Please pay attention to the possibilities of simultaneous image recording from network cameras and, widely used so far, analog cameras, developed archives and wider capabilities of controlling the whole system.

1.1 System description

VDRS AV is a digital video recorder designed for use with CCTV cameras. It uses PC based class computers which work under control of Microsoft Windows 2000/XP/Vista operating system. New VDRS AV system version can record image from up to 64 cameras, servicing 16 output switches and 16 alarm inputs. Moreover the system can be hybrid, where one system can service both analog an IP cameras – thanks to this it is possible to upgrade an existing installation and add IP or analog cameras. Managing the video server through the network is possible. Program allows wide possibilities of motion detection settings, searching the motion in archives, servicing alarm events. Differential image-compression method guarantees image recording longer than in other systems of that type without changing the image quality and storage space.

Software for managing VDRS AV system consists of two independent applications:

1. VDR-S *(Video Digital Recording - Server)*
2. VDR-C (*Video Digital Recording – Client)*

The first application is a server: processes image from the cameras, manages user accounts, tasks, controls the cameras. The second one is used as a client. We can connect to the server by a local network and do remote monitoring. Client application is available on mobile devices (mobile phones, Pocket PC) which allows access to camera images from any place in the world.

2. USING THE CLIENT SOFTWARE OF THE VIDEODR-S SYSTEM

During the first start of the application, it is necessary to set up it's configuration parameters.

This is done only once.

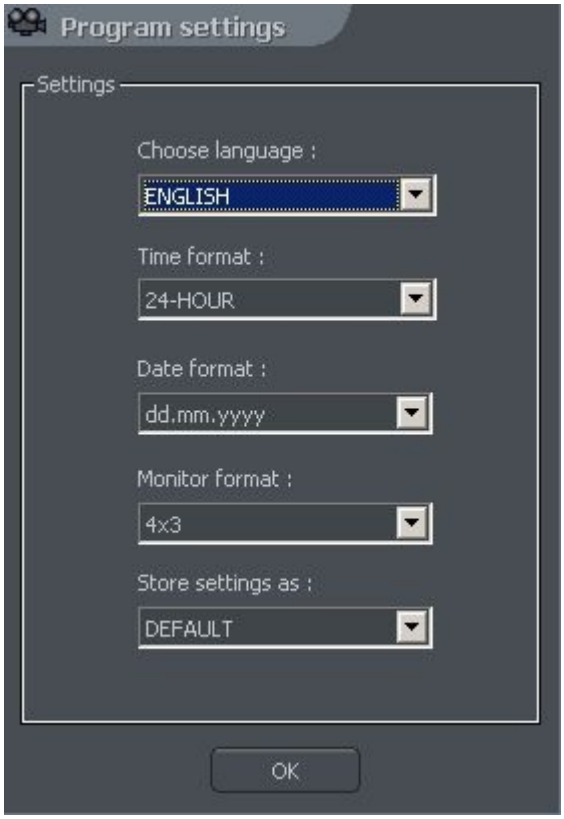
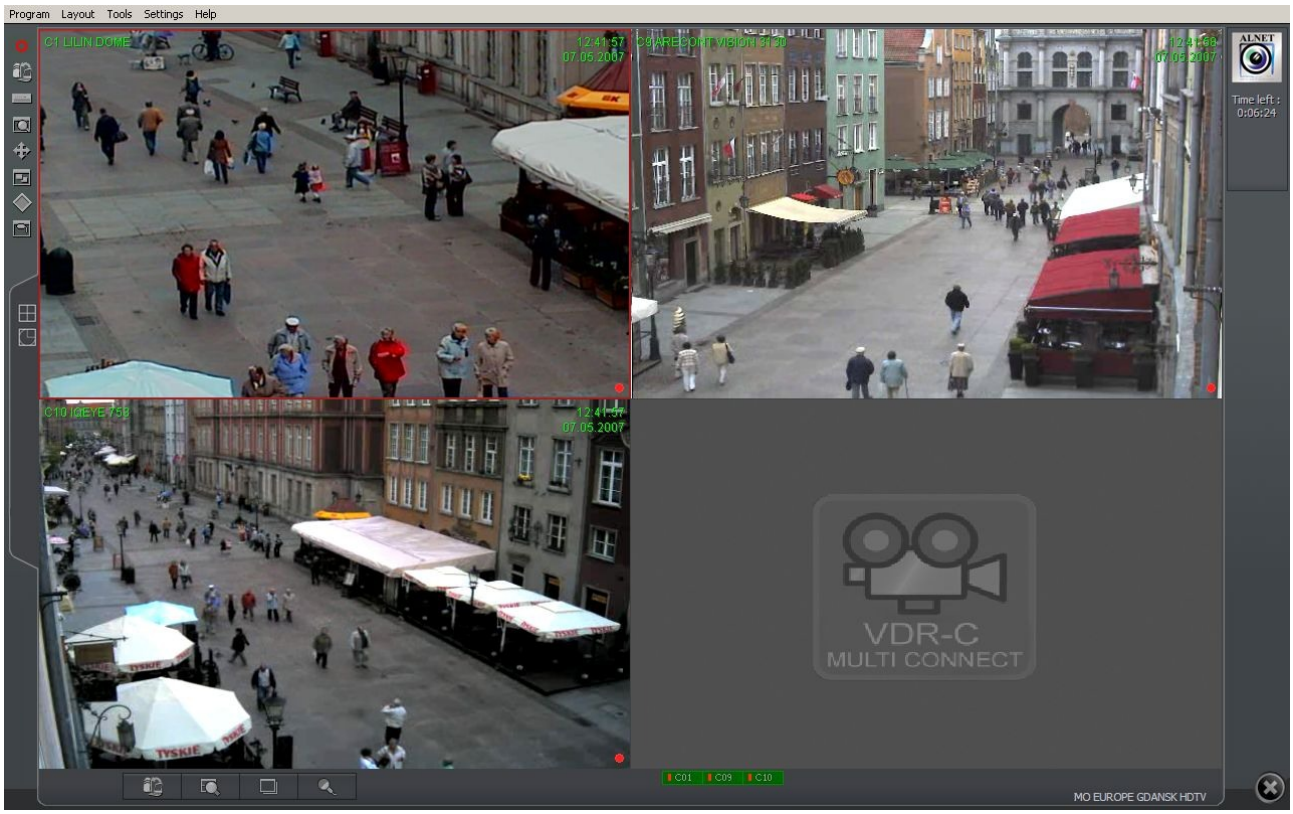


Figure 1: Configuration of the program parameters

1. **Choose language** – application language selection
2. **Time format** – 12 / 24-hour time format selection
3. **Date format** – date format selection – **dd** – day, **mm** – month, **yyyy** – year
4. **Monitor format** – image display format – setting depends on your display device (CRT / LCD) – 4x3 or 16x9
5. **Store settings as** – saves above settings into one of the profiles:

   - **DEFAULT**
   - **GLOBAL SETTINGS**
   - **CURRENT USER**

2.1 Main view



In the upper part of the window, there is a drop-down menu which gives access to the following program options:

- Menu **Program**:
  - **Minimize** – minimizes the application window
  - **Connect...** – opens the **Connection** window
  - **Disconnect** – disconnects current connection with the server
  - **Exit** – exits the application

- Menu **Layout**
  - **Layout manager** – starts the Layout manager – a tool for setting up the sequences of displayed cameras

- Menu **Tools**
  - **Address book** – opens the Address book
  - **Connection list** – opens the window with the list of active connections
  - **Remote archives** – opens the remote archive of connected server
  - **Local archives** – opens the client's local archive
  - **Archives from path** – opens the archive from selected path
  - **Watch alarm inputs** – input alarm list
  - **Browse photos** – opens the Photo Browser
  - **Server events** – list of the server events
  - **Dome panel** – opens dome control panel
  - **E-map** – displays graphic camera layout of connected server
  - **Volume control** – opens Windows volume control panel
  - **Program update** – checks if any program updates are available
  - **Synoptic table** – checks network activity of defined VDRS servers

- Menu **Settings**
  - **Camera and motion...** – picture quality settings and motion detection alarms settings
  - **Archive storage** – Archive storage settings for local recordings
  - **Dome control** – Dome control settings
  - **Alarm inputs** – alarm inputs notifications settings
  - **Server events** – server events settings

- **Microphone** – sends the sound from the microphone to the server's sound card
- **Program settings** – application parameters settings
- **E-map editor** – allows creating own graphic surveillance devices layout
- **Output buttons** – configuration of available relay outputs
- **Input buttons** – configuration of available alarm inputs
- **Save settings** – saves the program's configuration

- Menu **Help**
  - **About... -** information about VDRC

ATTENTION: the number of available cameras, alarm inputs, relay outputs, etc. depends on connected user's rights.

On the left sidebar, there are icons allowing direct access to main program functions.

Enables / disables **local** recording of videos from remote server

Opens the **Connection** window

Address book

Browse the video archives

Dome control panel

Photo browser

E-map

Input alarms list

Available layouts – divide screen in a way shown on the icon

Dynamic layout – defined layout sequences changing in time. More information – see chapter **Dynamic layout**

On the top right corner there's a info panel with informations about used disk space and acquired video time.

In case of connecting to server with connection time limit, there will be connection remaining time displayed on the panel.

On the right sidebar all accessible digital inputs / outputs will be displayed. The table below describes the meaning of each icon.

Icon	Description
	Inactive output switch
	Active output switch
	Inactive alarm input
	Active alarm input
	Unconfirmed alarm

The table below describes the icons placed on the application's bottom bar.

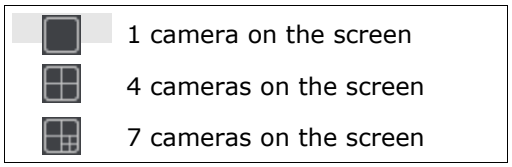
Icon	Description
	Opens the **Connection** window
	Browse the video archives
	Tools: alarm inputs list, photo browser, server events, dome control panel, E-map
	Microphone

Icons on the bar at the bottom of the screen represent the status of available cameras and audio channels. Each icon consists of number of camera/channel and it's name. Red rectangle, which appears beside the number symbolizes motion detection on the camera or sound detection if it appears beside audio channel number. If the icon is all red it means channel failure – the signal is not transmitted.

Clicking with left mouse button on the icon will maximize the camera view on full screen.

On the left side of the screen available layouts are placed. Layouts are different ways of

placing camera views on the screen. Dependent on the system version different layouts are available.



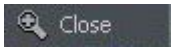
Last icon launches the dynamic camera layouts, that is previously defined layout sequences, which change in time. More information – see chapter **Dynamic layout.**

2.2 Camera view

In the center of the screen the most important elements of the system are placed. These elements are camera views. On each camera screen the system can display information such as: camera name, current time, number of captured frames per second. Double clicking with the left mouse button on the camera view will bring this view to full screen. Another double click will bring back previous veiwingstate . When You put the cursor in the top right corner of the camera view an additional menu will appear.

Icon	Description
	Enables / disables **local** recording of videos from remote server
	Makes a snapshot
	Selecting this option allows to enlarge the camera view. The example is presented below
	When a camera works as a dome the icon starts the "mouse control" mode. To change the position just click with left mouse button on the desired place in the camera view. To zoom in and out, use the mouse scroll.

Zooming the image

While holding the left mouse button pressed select the area to be zoomed. **This action does not affect the image size stored in the archives.** After releasing the left mouse button the image will be digitally zoomed. This operation won't affect the size of the image recorded in the archives. This function may be useful when cameras with optical zoom are used. To go back to normal state select the 

button.

If you click with right mouse button on the camera view area a menu will appear. All available commands are described below.

Name	Description
Connect...	Opens the **Connection** window
Set camera	Displays the list of available cameras. Marked position means that the camera is assigned to the particular area. To assign other camera choose it from the list
Sound channel	List of sound channels assigned to the particular camera
	Auto – assigns the channels to cameras as in the server configuration
Output switch	Activates selected output switch
Display mode	**Normal** - displays whole application window with tool bars.
	Full screen - displays only camera image on full screen.
	Preview – displays application window at the size controlled by user. Changing the size is done by resizing window (catching it's corner with left mouse button).
	Stay on top – in a preview mode application window will stay on top (that is it won't be covered by other active programs).
	Show menu – shows/hides menu bar at the top.
	Hide buttons – hides the bottom bar with camera symbols.
	Small buttons – small camera icons at the bottom bar
	Large buttons - large camera icons at the bottom bar
	Show tool buttons – shows/hides the bottom tool bar
Layout	Switches to selected camera layout. Enables dynamic mode. **Dynamic** – if **Camera pop-up** after alarm option was selected in camera configuration,it is possible to temporarily disable/enable this option by marking it
Snapshot	Makes screen shot (photo)
Disconnect	Disconnects current connection with the server
Exit	Exits the application

Most of the options mentioned above refer to single camera. It is very important to choose the proper camera (by clicking with left mouse button on it's display area) before selecting any option. Selected camera has a red border.

2.2 Establishing connection

After the application is started, the **Connection** window is displayed by default. That window can be also reached by following ways:

- clicking the button
- selecting **Connect...** from **Program** menu
- entering keyboard shortcut **CTRL+C**
- selecting **Connect...** from right mouse key context menu

Figure 2: Establishing connection

The meaning of particular fields is described below:

Field	Description
	Connection list defined in the **Address book**
	Shows the list of active connections
Server address	VDRS server address
Server port	VDRS server port
Login	User name
Password	User password
	Number of current physical server related with selected connection and the total number of such servers. Switching between the physical servers is realized by the arrows.More information – see chapter **Address book**
	Establishing connection with selected server
	Canceling operation / closing window

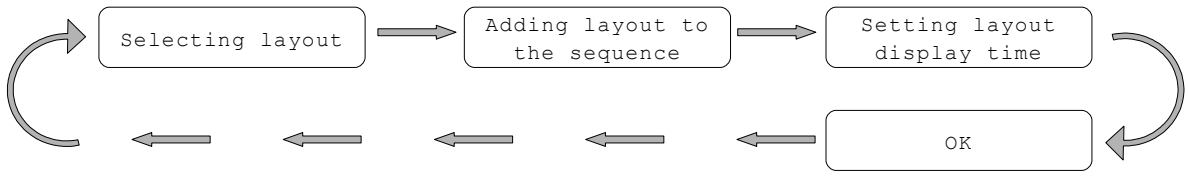
To terminate the connection with remote server, one of the following ways can be used:

- selecting **Disconnect** from **Program** menu
- in the Connection list, select button at corresponding connection (more info – see chapter **Connection list**)
- selecting **Disconnect** from right mouse key context menu

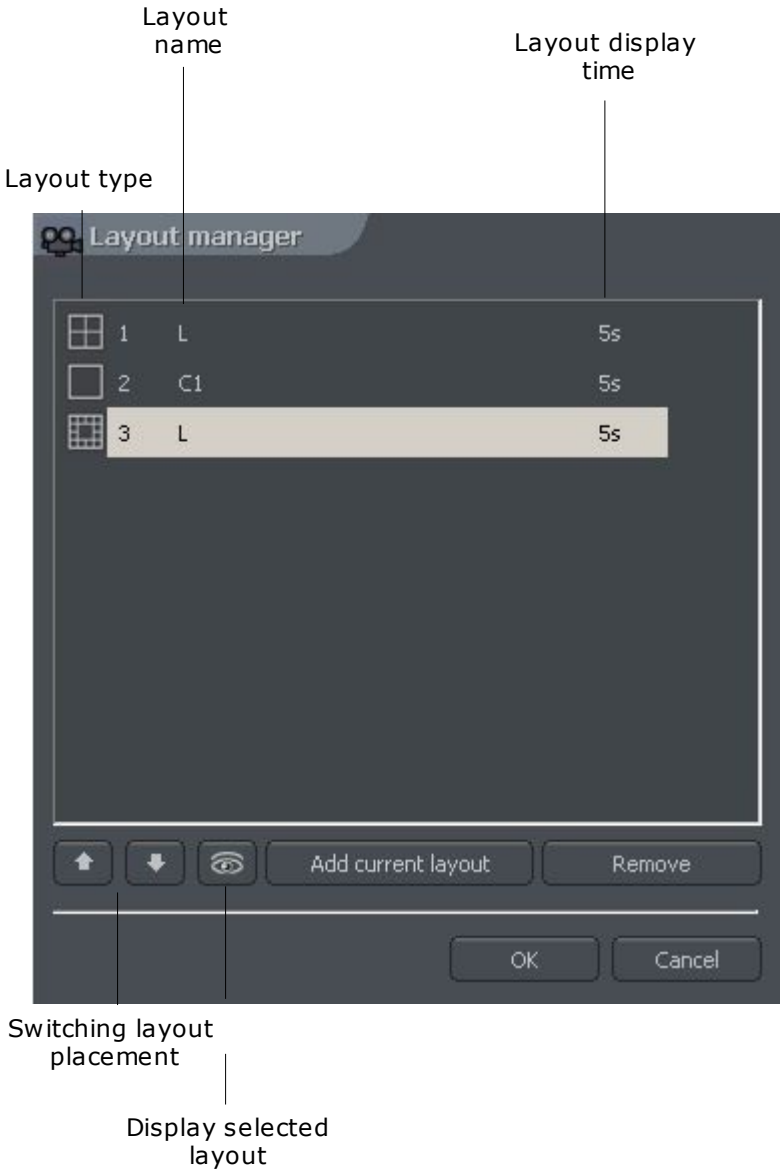
2.3 DYNAMIC LAYOUT

The function allows to set the sequence of camera picture layouts. For example in the 16 camera system it is possible to create a program, which will display each camera on fullscreen for 5 seconds, and then at the the end of the sequence all cameras all together.

Setting of dynamic camera layout mode is made in the following steps:



Selecting layout	Choosing of one of the available layouts (paragraph 3.2)
Adding layout to the sequence	Menu: Tools -> Dynamic layout -> Add current layout
Setting layout display time	When in the dynamic layout menu double click on particular layout time field to set it's display time
OK	Confirm changes


Layout name
Layout display time
Layout type
Layout manager
1 L 5s
2 C1 5s
3 L 5s
Add current layout
Remove
OK
Cancel
Switching layout placement
Display selected layout

3. System tools

In this chapter, a description of the client application's tools, such as Address book and Photo Browser. One of most important tools is the Archive browser. The multitude of included functions allows to quickly find particular events, prepare backup copies and export recording to popular .avi format.

The efficiency of archives depends mainly on hardware specification of the computer (Processor, HDD interface, RAM memory).

3.1 Address book

The Address book is a tool, which allows the storing of VDRS Servers addresses.

Access to the address book is achieved by clicking the button or selecting the **Address** book from the **Tools** menu.

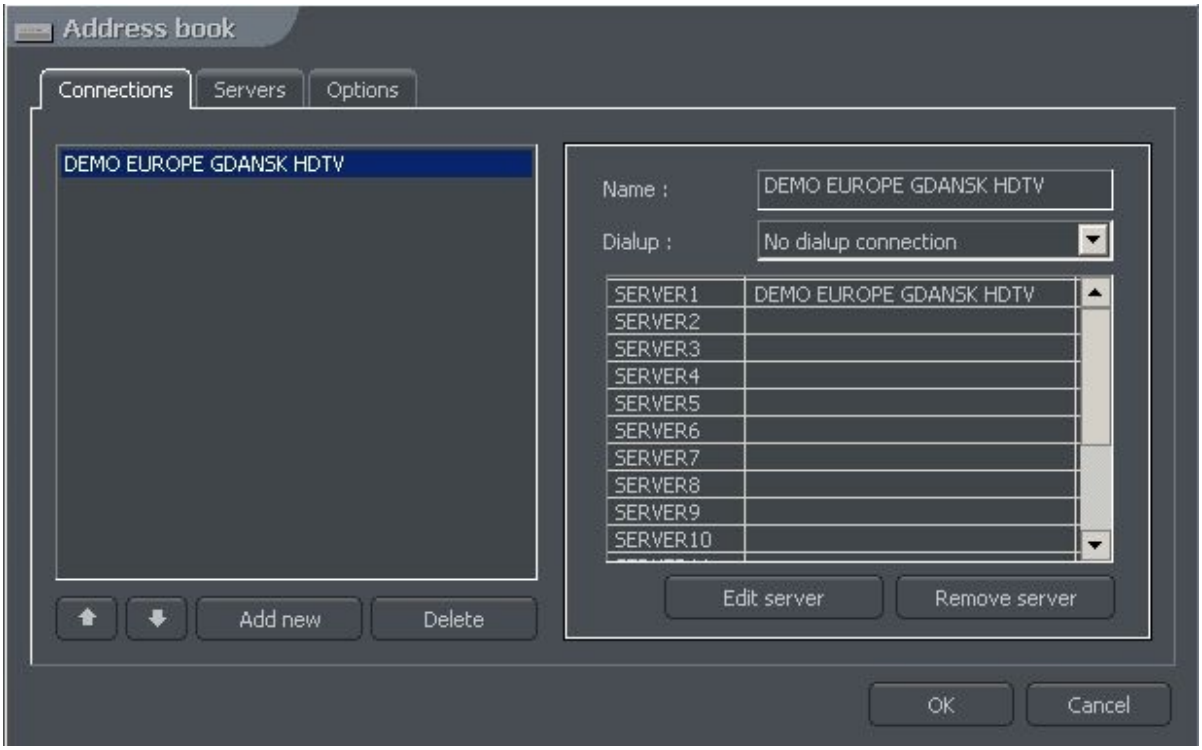


Figure 3: Address book – Connections bookmark

The meaning of particular fields is described in the table below:

Field	Description
Connections	The list of defined connections. To add or delete entries, use Add new and Delete button. To change entries order, use and button.
Name	Connection name
Dialup	The application can be configured to establish Dial-Up connections – that option allows choosing between available Windows Dial-Up connections.

Server list	It is possible to create the connection with multiple VDRS servers (max. 16) at the same time. In order to do that, the chosen servers should be added to the list of edited connection (the servers must be defined in the **Servers** bookmark before) by double clicking on selected row, or by selecting the row and clicking Edit server button. To remove the server from the list, select server and click Remove server button.

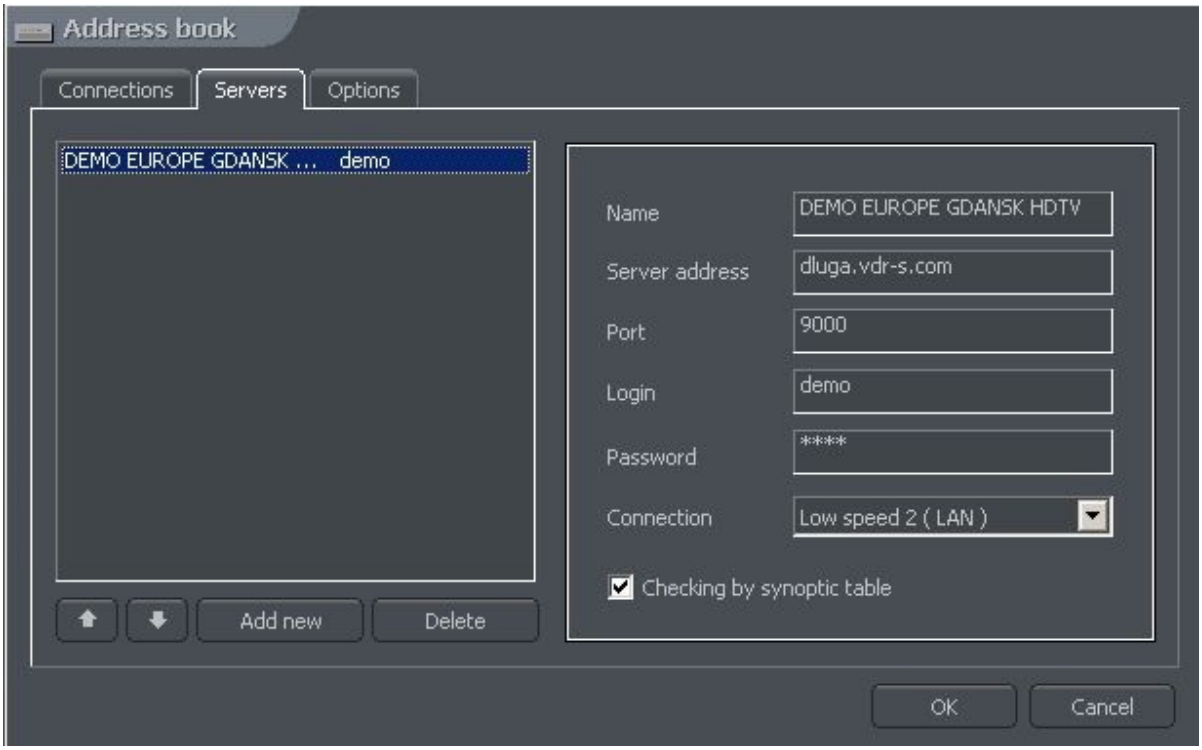


Figure 4: Address book – Servers bookmark

Configuration and adding the new server to the list is achieved in the **Servers** tab. Managing the server list is similar to managing connection list as described above. To add the new server, the following parameters must be entered:

Field	Description
Name	Server name
Server address	DNS address or IP number of the Server
Port	Server port (default 9000)
Login	User name
Password	User password

Connection	Connection speed selection – following options are available: ● Low speed (WAN/Dialup) ● Low speed 2 (LAN) ● High Speed (LAN) ● High Speed 2 (LAN)
Checking by synoptic table	Enables server's network activity checking with the **Synoptic table** tool.

Additional options regarding defined connections and servers are available in the **Options** tab.

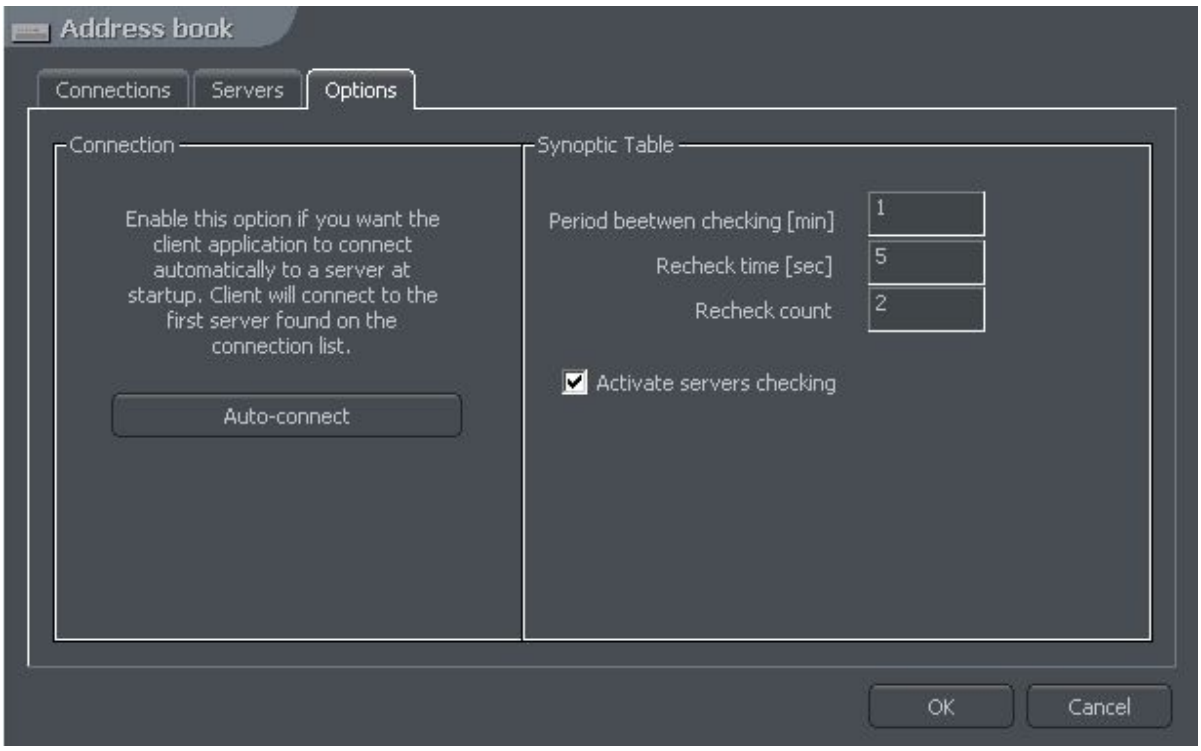


Figure 5: Address book – Options bookmark

Field	Description	
Auto-connect	Enabling this option causes automatic connection establishing with the first connection (server) on the list after application start.	
Synoptic table	**Synoptic Table** tool configuration (checking server's network activity)	
	Activate servers checking	Enables / disables server's checking
	Period between checking [min]	Time between activity checking
	Recheck time [sec]	Time after which the recheck of the server will be repeated (in case of non-responding server)
	Recheck count	Amount of rechecks after which the non-responding server will be marked as inactive.

3.1 Connection list

The list showing all active server connections. Allows terminating / establishing new connections, and displays (if necessary) additional informations regarding communication / establishing connections.

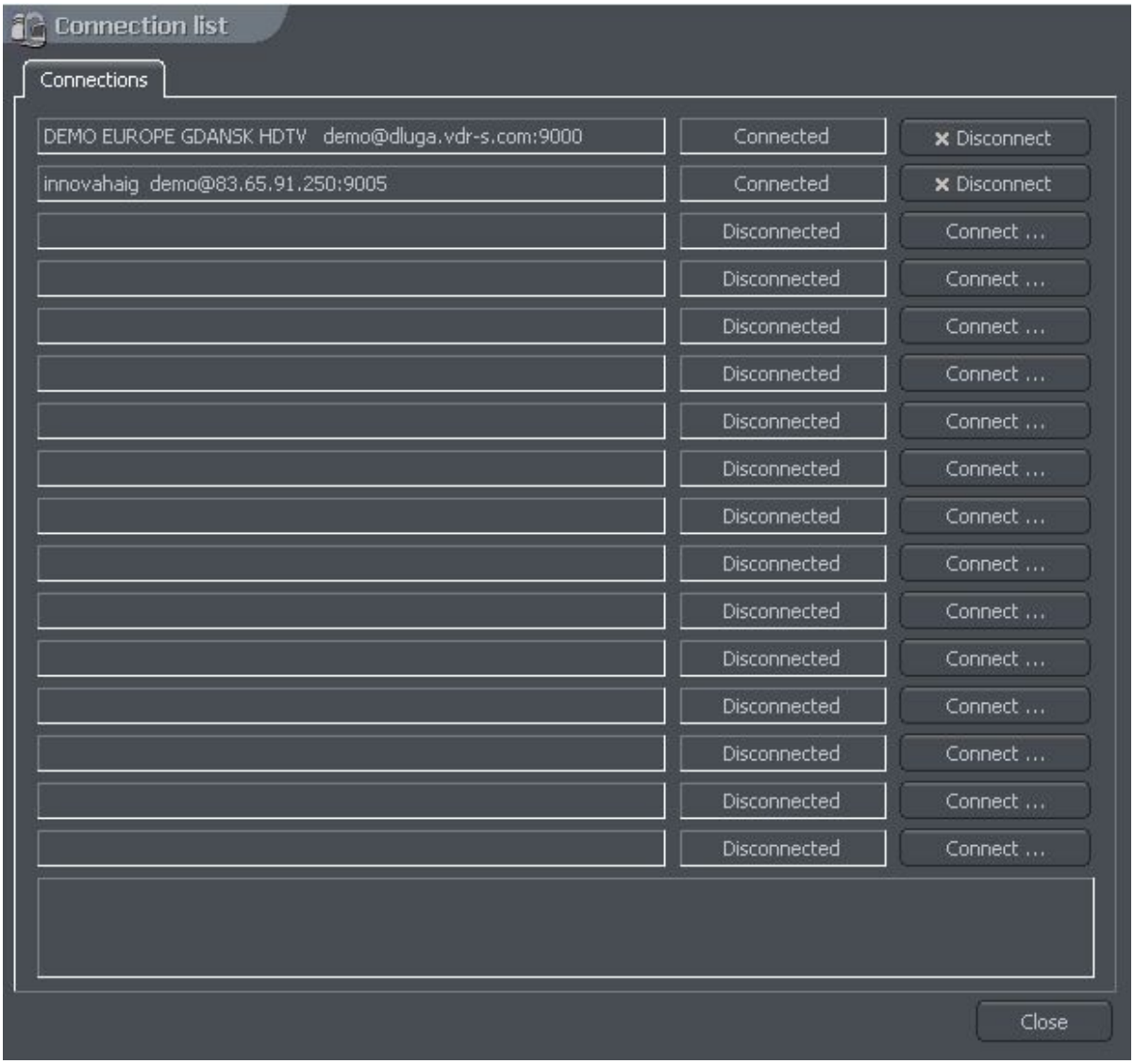


Figure 6: Connection list

3.2 ARCHIVE BROWSER

The VDRS System client application includes an advanced tool for browsing, recording and exporting archive recordings. It allows accessing the remote server's recordings, as well as local recording of remotely viewed videos. In the Tools menu, there are 3 options regarding the archives:

- **Remote archives –** access to the selected remote server's archive
- **Local archives** – access to the local archives – creating and configuration of local disk space required – see chapter **Disk Archive**
- **Archives from path** – access to archives in selected folder (e.g. backup copy from server). In the dialog box should be the **archive index** folder selected (default ***svrVideoIndex***).

To access the archive tool, do one of the following:

- select the keyboard shortcut Ctrl+A (the local archive is opened)
- in the **Tools** menu select one of above described options
- click the icon (additional dialog box with archive type selection will be displayed

In the upper part of the windows, there is a time line of achieved recordings.

Green bar represents the recording from the camera. Red bar represents the time when the signal from cameras is lost. Vertical yellow line points the time the VDRS system was started or shut down. If the mouse indicator is moved over the camera recording bar the camera name, date and time of the recording will be displayed. If the mouse indicator is kept for a while longer an additional window with camera image will appear. In this mode it is possible to move the mouse along the recording bar and watch video recordings. By clicking with right mouse button it is possible to add or remove a bookmark sign. You can

mark special events by bookmark like unusual situations or alarms.

On the left side of the screen the function panels are placed. The first is the panel which controls the replay.

Button	Description
	Play backwards
	Pause
	Play forwards
	Play speed x2
	Play with maximum possible speed
	One frame step forward
	Shows the bar with audio recordings
	One frame step backward

Below is the panel with archive tools:

Button	Description
	Allows to mark an area on the camera image
	Enlarges, by marking the area, displayed camera image
	Seeks for motion in the selected area
	Launches the screenshot browser
	Go to previous bookmark
	Go to next bookmark
	Make snapshot of the selected camera image
	Export to .avi file
	Image parameters from the selected camera

The following panel controls the range of displayed time.

Button	Description
	Goes ½ of the selected time period back
	Goes 1/8 of the selected time period back
	Goes 1/8 of the selected time period forward
	Goes ½ of the selected time period forward
	Tightens the selected time period
	Widens the selected time period

For example if 1 day archives are displayed, the time period will move adequately for 12 hours and 3 hours.

Function buttons are described below:

- Show a whole day – shows a whole day recordings
- Calendar – launches calendar
- Backup – launches the backup copy tool

3.2.1 Searching for motion in the archive recordings

VDRS system allows to search for motion in the recorded video. It is possible to select particular area on the camera image. To search for motion click icon and select the area or whole image. To start the search procedure click the appropriate icon.

System will start to play the video. If the motion is detected it will stop playing the video, which will indicate motion. Additionally the system will play sound. User can also control the motion sensitivity during the search by clicking and moving the first bar (**motion search level**) in the panel. To search further click again.

3.2.2 Export to .avi

This function allows to export the selected recording from a single camera to .avi file. During this process system uses codecs installed in the operating system. Uncompressed image can be also exported.

Select the camera, from which You want to export image, and choose the time range on the time axis. Then click .

Figure 7: Archive browser - .avi export

In this window user can set number of frames per second or if camera name and time will be put in the .avi video. The next step is to name the file. After these actions click **OK**. The following step is to choose codec for image compression. You can choose one of the codecs installed in Windows OS. You can resign from image compression by selecting **Full frames (uncompressed)**. The export process can take some time. It depends on video length, compression level and CPU computational power.

3.2.3 Backup copy

This tool allows to backup video recordings from any cameras without changing the file format. Copy which was made in this way can only be seen by using VDRC client application with full archive functionality.

Backup tool can be opened in the archives, by selecting the "backup" button. Next it's necessary to type the login and password of the user with rights to perform the "backup", and chose one of the options:

- **Backup media files –** performs archive backup copy
- **Delete media files –** deleting archive files
- **Change backup settings** – change of settings of backup function

In order to make the archive backup copy, first path to the designated folder must be entered, to which the archive files will be copied, then select the cameras and sound source, from which the recording will be archived.

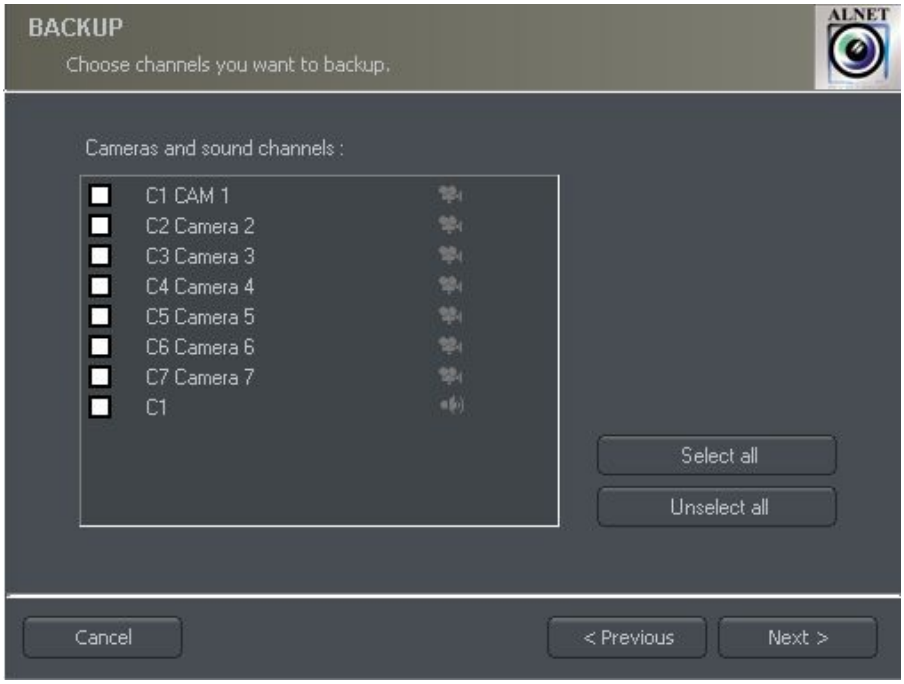


Figure 8: Archive browser – Backup – Camera selection

Next stage is selecting the time range of the recordings. After that, the program will show required and free space in the specified location of the disk and will start the backup process.

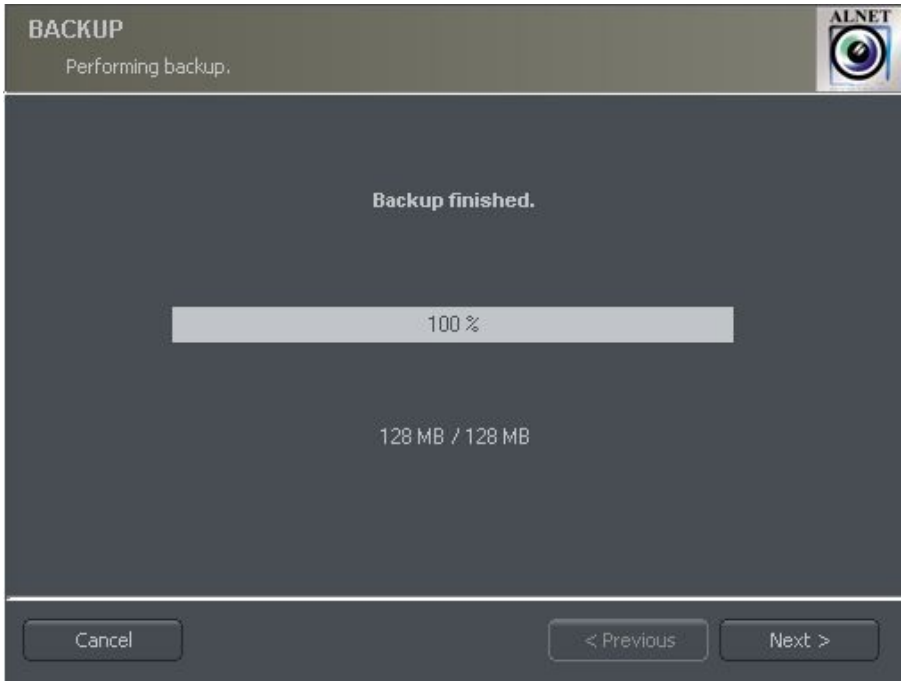


Figure 9: Archive browser - Backup

After creating the backup copy, the backup application will show the summary of made operations, and end action.

Creating a backup copy can be very long-lasting and CPU power demanding process. It is recommended to create backup copies when the system is not heavily loaded, for example in evening hours where there is less motion.

3.3 Watch alarm inputs

This function shows the list with server alarm inputs for which its state has changed.

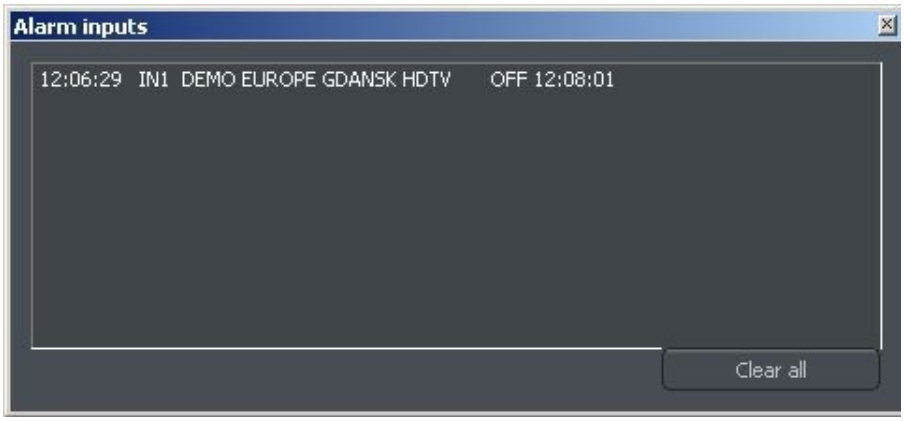


Figure 10: Alarm inputs event list

The list shows the source (server / connection name), activation / deactivation time and the name of alarm input. The Clear all button clears all events from the list.

3.3 Photo browser

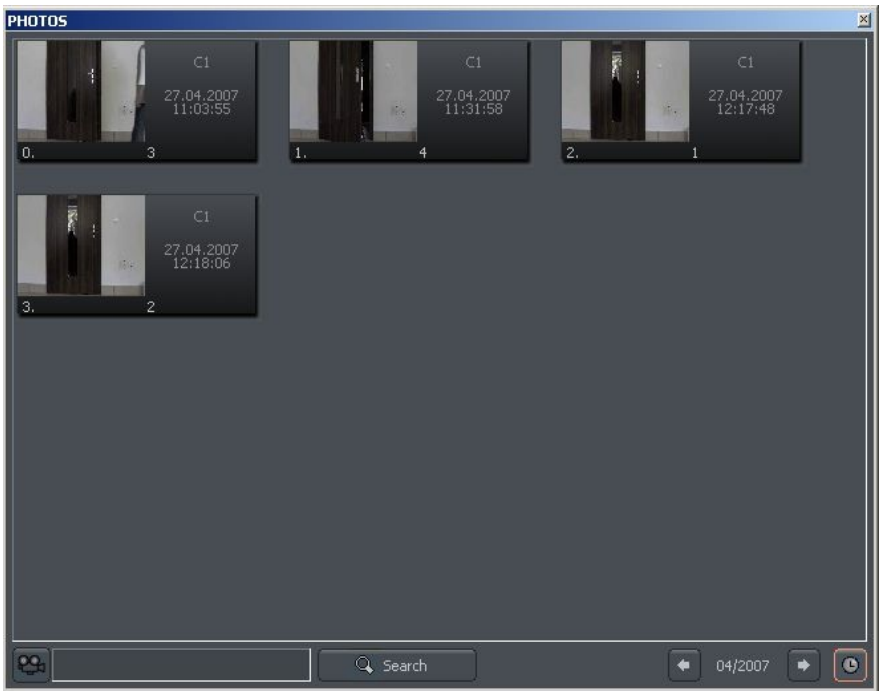
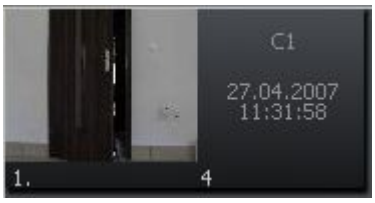


Figure 11: Photo browser

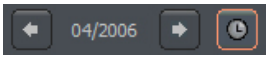
Photo browser displays all the photos taken during the work with the system. It is possible to sort photos by particular cameras and months and search for photos.



Single photo is described by camera number, date and hour and also name under which it was saved. Double click on the thumbnail enlarges the picture.

In order to display photos only from particular cameras choose the camera icon and then cameras from the palette.

Choosing icon will show the photos from particular month. Beside the icon there is a symbol, which describes currently browsed month. Users can jump to another months using arrows.



After filling the text field and clicking **Search** system will display pictures which name includes the submitted sequence of characters. Additionally it is possible to delete photos from the browser level. To do this, select the picture and press Delete key on keyboard.

3.3 Server events

This tool records and shows, in the list all the server events sent to client application in order to automatically establish connection in case of defined alarm (configured on the server). Configuration of the client application regarding handling of server events is described in **Server Events Settings** chapter.

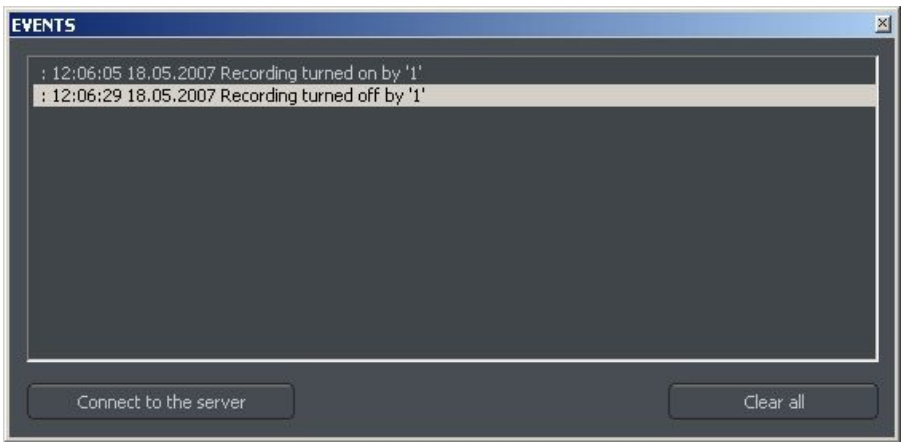


Figure 12: Server events

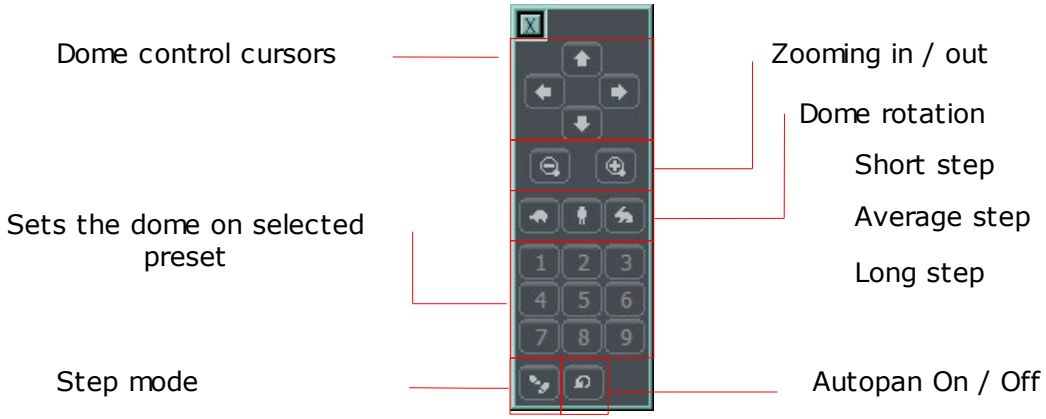
Every entry on the event list is described with activity date and time, and exact description of event. With

button it is possible to establish connection with corresponding server (only if automatic connection option wasn't enabled in the **Server Events Settings**). The

button removes all events from the list.

3.4 Dome control panel

Panel allows to steer the domes. It is a substitute for control devices such as joystick or industrial keyboard.



3.5 E-MAP

E-map is a graphical representation of cameras, relay switches, alarm inputs, and other surveillance devices layout. Additionally, it is possible to watch the cameras, sound channels and alarm inputs activity, as well as relay switches control.

E-map is downloaded from the remote server during connection (if available). It is possible to create your own e-map and use it in place of original, downloaded from the remote server. More information about creating the e-map – see **E-map Editor** chapter.

Figure 13: E-map

3.5 SYNOPTIC TABLE

The tool that checks network activity of selected VDRS servers (see **Address book** chapter). The Synoptic table is shown below.

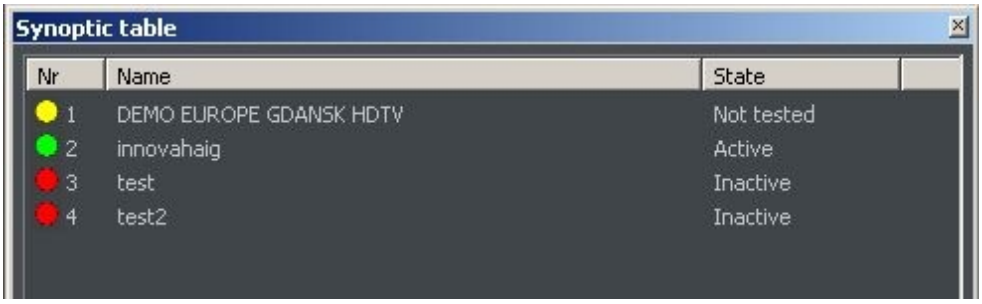


Figure 14: Synoptic table

4. Program settings

In this chapter there will be described configuration options of VDRS System client application. Please pay your attention to the sub-chapter regarding cameras configuration and archive storage settings.

4.1 Camera and motion

That window contains options regarding the displayed image quality and video stream.

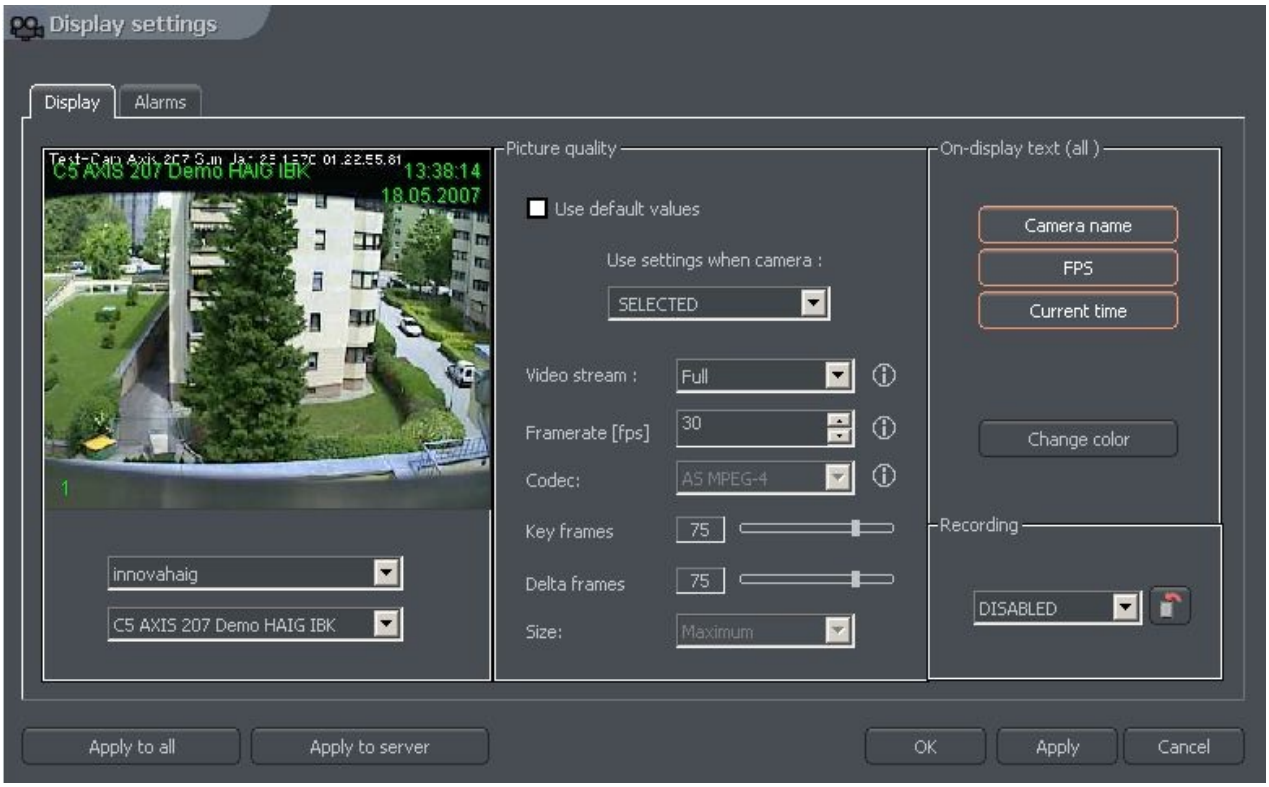
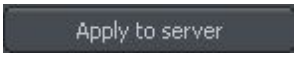


Figure 15: Camera and motion – Display tab

The table below describes particular fields of **Display tab**:

Field	Description
	Connection (server) and camera selection

Picture quality	Options regarding displayed image quality	
	Use default values	Selecting this option causes all parameters to be set to default values, and configuration options to become unavailable.
	Use settings when camera:	Allows independent display setting for following camera modes: ● Selected – the camera is selected (has a red border) ● LARGE VIEW mode – camera view is equal or greater than in 4-cameras layout ● SMALL VIEW mode – camera view is smaller than in 4-cameras layout
	Video stream	Option available for **Fast connection** mode (see chapter **Address book**) – determines if **Full** or **Secondary** video stream should be used (if available).
	Framerate [fps]	Maximum amount of frames per second displayed on the selected camera.
	Codec	Option available for **Slow connection** mode only (see chapter **Address book**) – allows recoding the video stream into one of available formats: ● **AS DJPEG** – Codec developed by Alnetsystems Company. Codes only image areas which are changed – uses key and delta frames. When image doesn't change system is not generating any data. CPU usage is low and hard disk space for archive storage strongly depends on how much motion is on the screen. ● **AS MPEG-4** – Encoding and decoding uses a lot of CPU power. Uses key and delta frames. Delta is an ordinary full frame calculated from a difference between previous frame and current frame. That's why big amount of data is generated when there are no changes in the image (but less when changes are big). It guarantees high image quality ● **AS M-JPEG** – Records the individual frames as JPEG images – each frame is coded individually (every frame is a key frame). It requires plenty of hard disk space but gives good image quality. It uses average CPU power. Amount of generated data doesn't depend on amount of motion on the screen
	Key frames	Quality of key frames, which are background to delta frames. The higher value the higher quality (and more hard disk space needed for the archives)
	Delta frames	Quality of Delta frames (the part of the image which changes)
	Size	Video frame size

On display text (all)	Informations displayed on **every** camera image	
	Camera name	Camera name
	FPS	Actual frames per second
	Current time	Current time
	Change color	Changes color of displayed informations
Recording	Local recording options	
	Enabled / Disabled	Enables / disables local recording for selected camera
		Displays the list of all cameras with local recording enabled
	Applies all current settings to all connected cameras	
	Applies all current settings to server settings (if connected user is allowed to)	

The Alarms tab contains settings regarding motion detection and signal loss alarms.

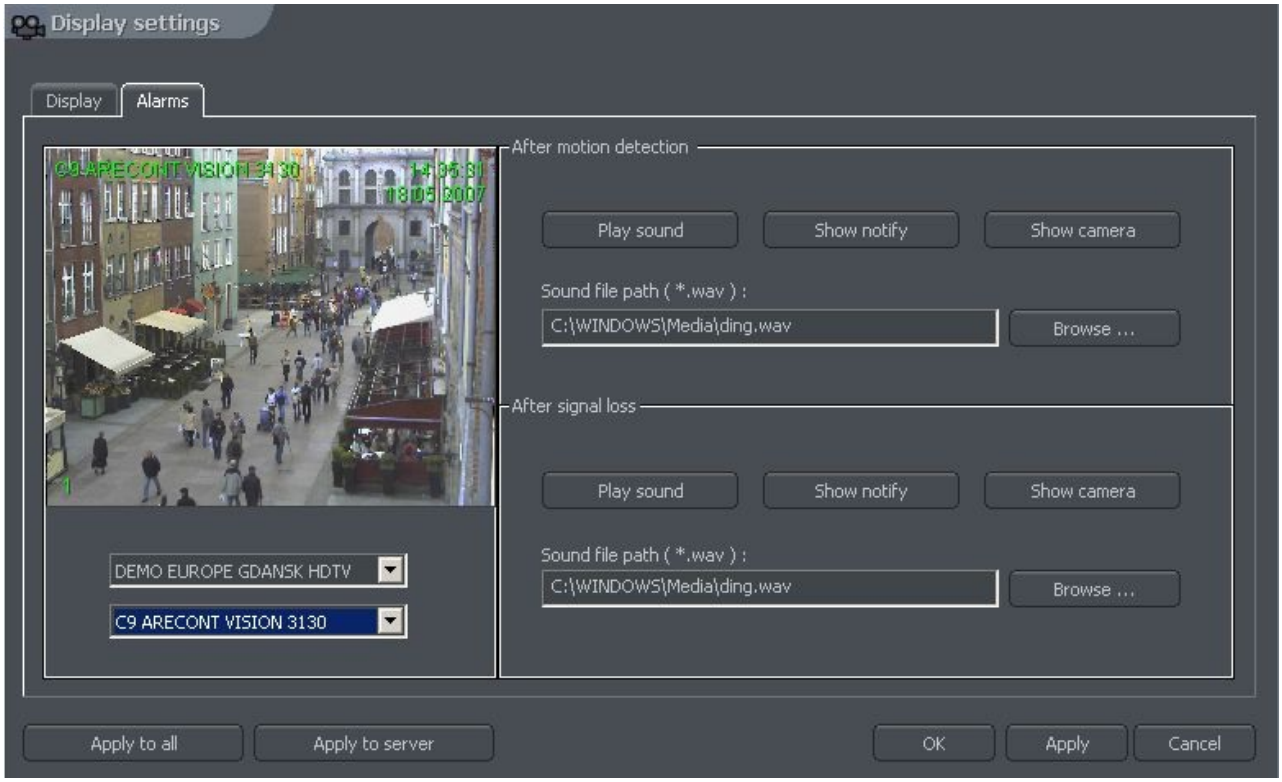


Figure 16: Camera and motion – Alarms tab

Description of available options is presented in the table below:

Field	Description	
	Connection (server) and camera selection	
After motion detection	Motion detection alarm handling	
	Play sound	Plays sound file
	Show notify	Shows "Balloon tip" notification
	Show camera	Shows the camera which activated alarm event.
	Sound file path	Path to the sound file which will be played in case of alarm event.
After signal loss	Signal loss alarm handling	
	Options are similar to these described above	

4.1 DISK ARCHIVE

For the use of the local recording, it is necessary to configure the disk archive, that is to point the disk space which will be used for storing the camera image and sound. The more space will be used, the more archive recordings will be stored. To access archive configuration, select **Disk archive** from **Settings** menu.

⚠ ATTENTION: After selecting **Disk archive** option, a notification about closing application option will be displayed. In case of **any** archive editing, especially with active remote server connection and recording enabled, it is **strongly** recommended to close application (select **'Yes'** in described notification).

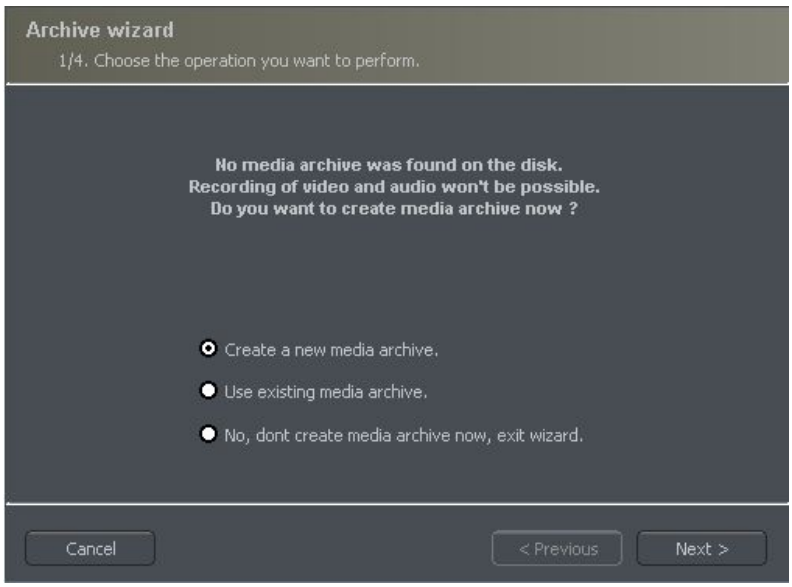


Figure 17: Creating disk archive

First window of archive creator offers 3 choose options:

Create a new media archive – create new disk archive

Use existing media archive – configuration of the existing disk

No, don't create media archive now, exit wizard – closing wizard, without creating disk archive

In the next step, there must be definition of what type of archive will be created. By selecting **"Create archive which will use preallocate disk space"** option, this will create the disk archives, with size defined by user. Otherwise, archives will be build increasingly, which means that it will increase it's size during data recording, until it fills whole disk space of selected partition.

ATTENTION: After filling assigned disk space, VDRS system continues recording, successively overwriting the "oldest" archives.

Next, location of the archive files have to be defined:

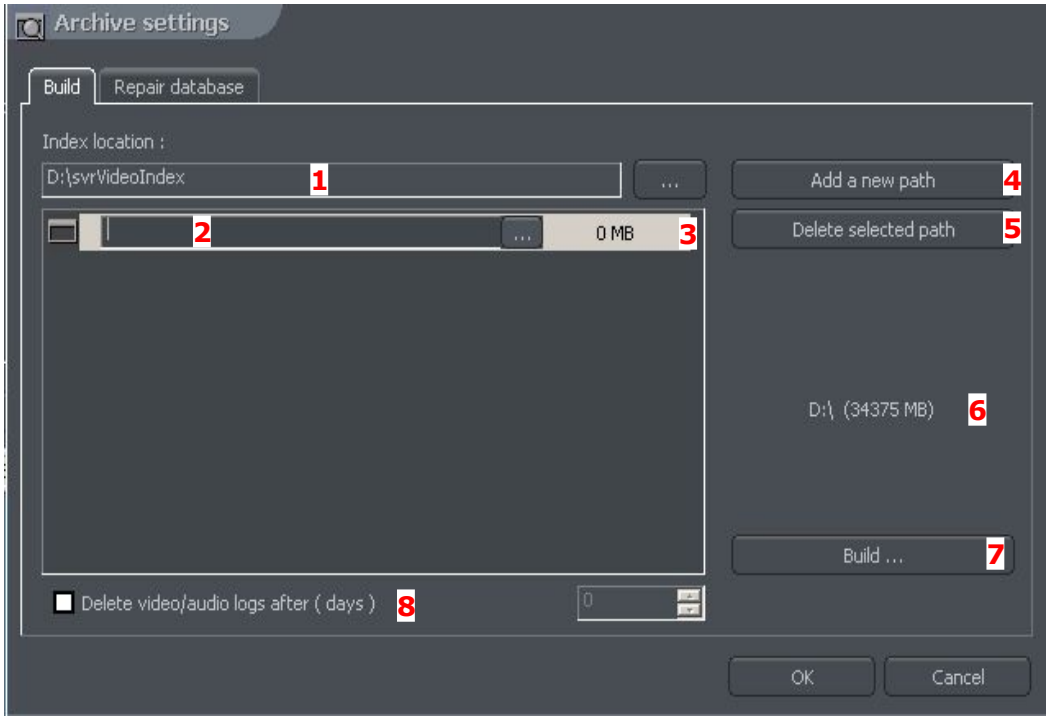


Figure 18: Creating disk archive – path configuration

1. **Index folder path** - this folder contains information about stored archives - it must be defined in the first place.
2. **Archive folder path** - in defined folder archives will be stored. At the same time,

configuration of multiple archive path's is possible.

3. **Size of disk archives** - defined size of archive folder - changing is possible after double-click on numerical value.

ATTENTION:
1. Option presented above is available only when the disk archive is created with preallocated disk space (see figure 10). If the increasing archive is created the option will not be available.

2. Minimum disk space **cannot be lower than:**

[number of connected cameras] x 32 MB,

- lower disk space can cause recording malfunctions.

4. **Adding path to archive** – adds another path to disk archive
5. **Deleting archive path** – erases the selected disk archive path
6. **Declaring the available archive size** on selected disk partition
7. **Creating archive** – after defining index paths and archive use this option is to create archives for the recordings
8. **Erasing recordings** older than defined number of days

Clicking **OK** button after defining the paths to index folder and disk archives folder will make system to proceed to the next stage of archive configuration:

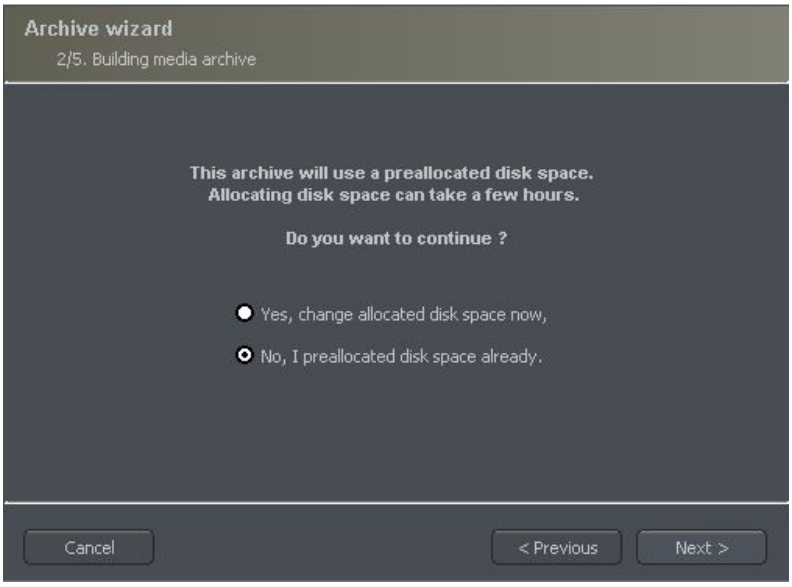


Figure 19: Creating disk archive

1. **Yes, change allocated disk space now** – this option should be checked when creating new archive or adding new path for data storage. After choosing this option system shows the next stage of configuration (see figure 20)
2. **No, I preallocated disk space already** – this option must be selected when path of the existing archive is added, or recording path is deleted.

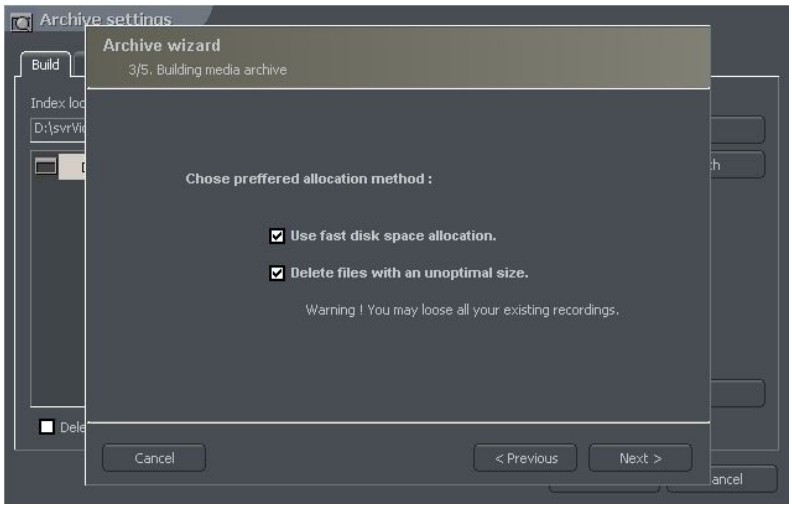


Figure 20: Creating disk archive

Use fast disk space allocation – fast allocation of disk space - It lasts considerably faster than standard. However, it can cause archive file fragmentation.

Delete files with an un-optimal size – archive files which have un-optimal size will be deleted (for example when adding existing archive, which was created increasingly)

In this stage, the configuration of disk archives is finished.

4.2 Dome control

VDRS System allows to control analog dome cameras (with ConExt extension boards) and digital cameras (control by TCP/IP protocol). The unique function is possibility to add new protocols and edit protocols already implemented. The devices used to control domes are for example: keyboard, mouse, dome control panel from the application level, joystick, industrial panels connected by USB or MIDI/Game port (which was used in older sound cards).

4.2.1 Settings

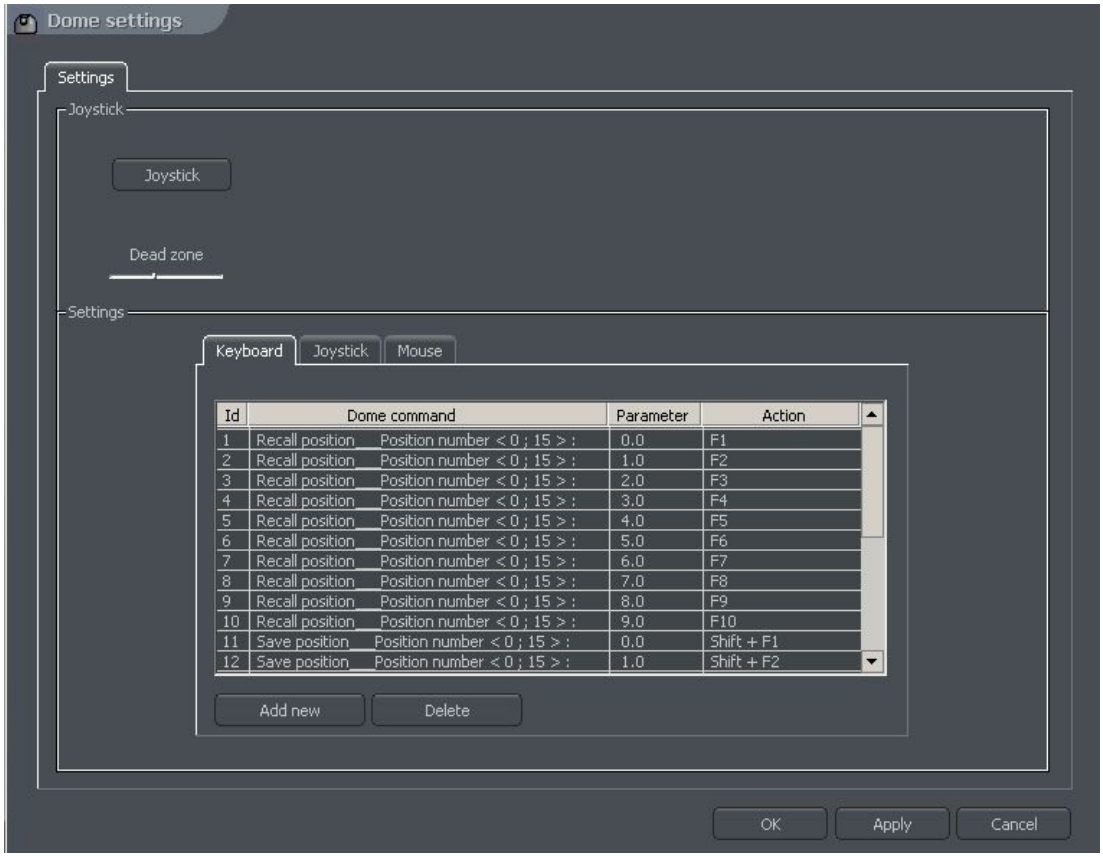


Figure 21: Dome settings

Panel	Field	Description
Joystick	Joystick	Activates joystick. If any error occurs the message will appear
	Dead zone	Joystick "motion range" on which system will not react
Settings	Settings which concern control commands. This panel is divided into three sections: Keyboard, Joystick and Mouse. It is possible to add new command and edit existing ones. To edit command double-click on command name. To add command select **"Add new**" button	
	Dome command	Command name (describes it's action)
	Parameter	Parameter value, which is transmitted to the dome during the command execution
	Action	Keyboard shortcut to selected command (for mouse and joystick these options are permanently assigned to their functions)

4.2 Alarm inputs

That function allows configuring program reaction for connected VDRS server's alarm inputs activity.

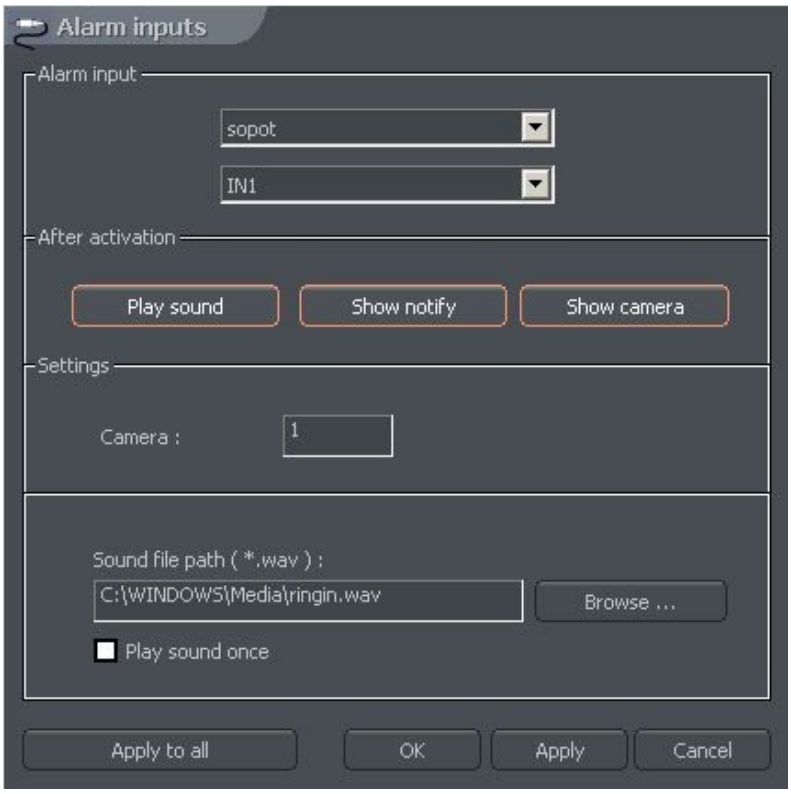


Figure 22: Alarm inputs settings

Field		Description
	Connection (server) and alarm input selection	
After activation	Alarm input activity handling	
	Play sound	Plays sound file
	Show notify	Shows "Balloon tip" notification
	Show camera	Shows the camera which activated alarm event.
	Sound file path	Path to the sound file which will be played in case of alarm event. **Play sound once** – defined sound file will be played only once in case of alarm
Settings	**Camera**	Selects camera, which will be displayed after alarm event

4.2 Server events settings

This function allows configuring the client application for listening to the server events on selected TCP port (if the server is configured for sending events to the client).

Figure 23: Server events settings

Field	Description	
Listen on port	TCP Port on which the client application will be listening to the server events	
My password	Password for accessing client program from the server	
Enabled / Disabled	Enables / disables listening to the server events function	
After event	Reaction of client program for incoming server event	
	Auto connect	Automatically connects to the server
	Play sound	Plays sound file
	Show window	Displays the camera which activated the event
	Show notify	Shows "Balloon tip" notification
Sound file path	Path to the sound file which will be played in case of server event.	

4.2 Program settings

Options regarding client program configuration – there are 3 tabs available:

- **General**
- **Photos**
- **Settings**

4.2.1 General

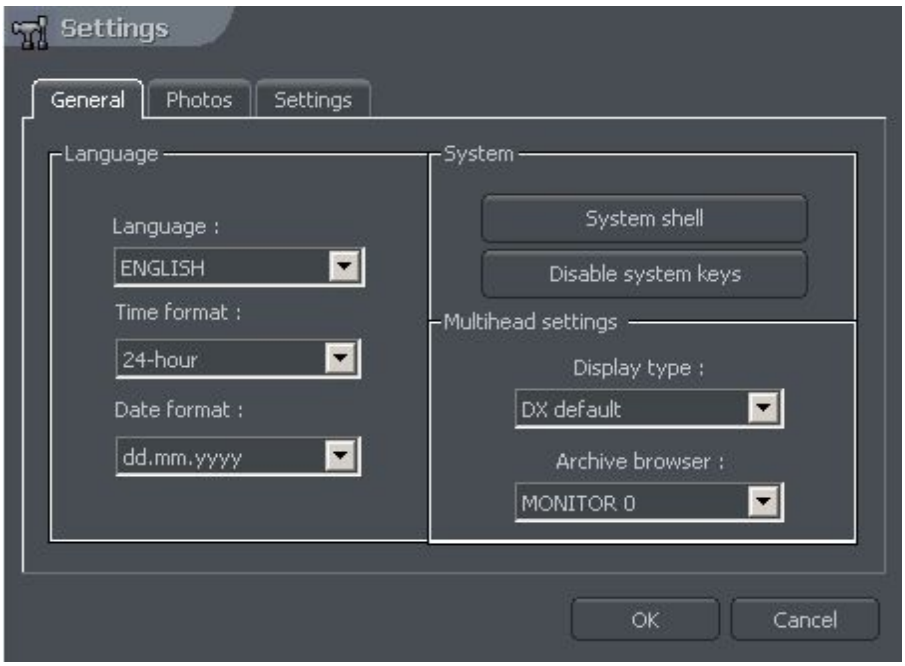


Figure 24: Program settings – General tab

Field		Description
Language		Program language select
Time format		Time display format – 12/24 hour
Date format		Date display format – dd – day, mm – month, yyyy - year
System	**System shell**	Program works as system shell (OS functions are not available)
	Disable system keys	System keys (e.g. [Winkey], CTRL+Esc, CRTL+ALT+DEL) are not available
Multihead settings	**Display type**	DirectX mode used for displaying image
	Archive browser	In multimonitor system – allows selecting the monitor on which will be displayed the archive browser window

4.2.2 PHOTOS

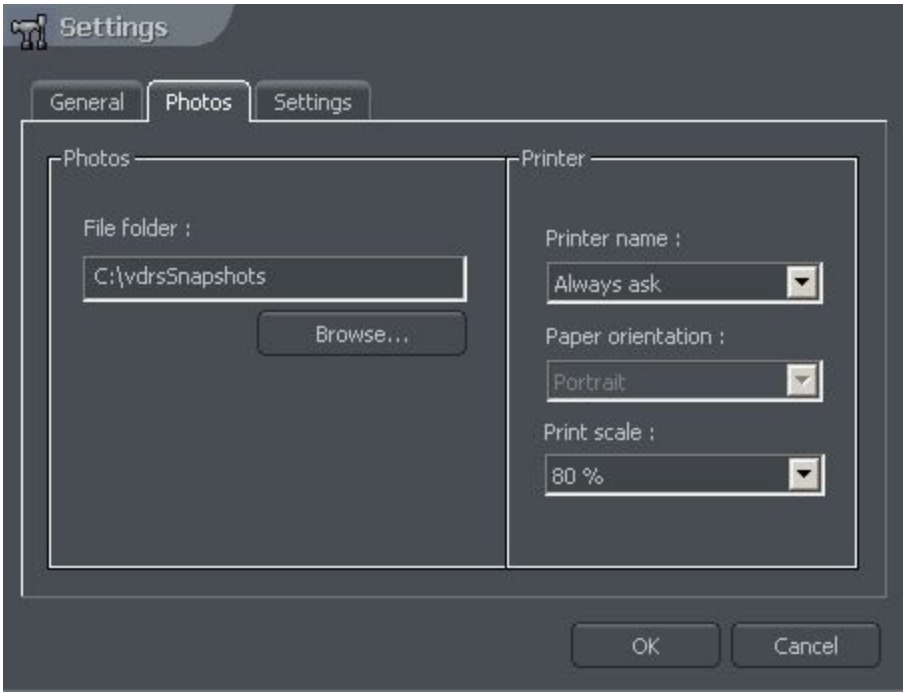


Figure 25: Program settings – Photos tab

Pole	Description	
File folder	Path to the folder where the photos will be saved	
Printer	Photos printing settings	
	Printer name	Printer select
	Paper orientation	Print orientation (Portrait / Landscape)
	Print scale	Print scale [%]

4.2.2 SETTINGS

Protect with password – enabling this option allows protecting the program settings with the password.

4.3 E-MAP EDITOR

E-map is a tool which allows to design a graphic plan of cameras, switches and alarm inputs placement. Additionally it is possible to activate switches, monitor the activity of alarm inputs, cameras and sound channels. Graphic files (.jpg .gif .png) can be used as E-map background. E-map editor can be accessed from menu panel:

Configuration -> E-map editor

ATTENTION: To design / edit your own map, the option:
„Do not edit maps. Always load e-maps from server” must be deactivated.

E-map can have a tree structure. An example is presented on the next page:

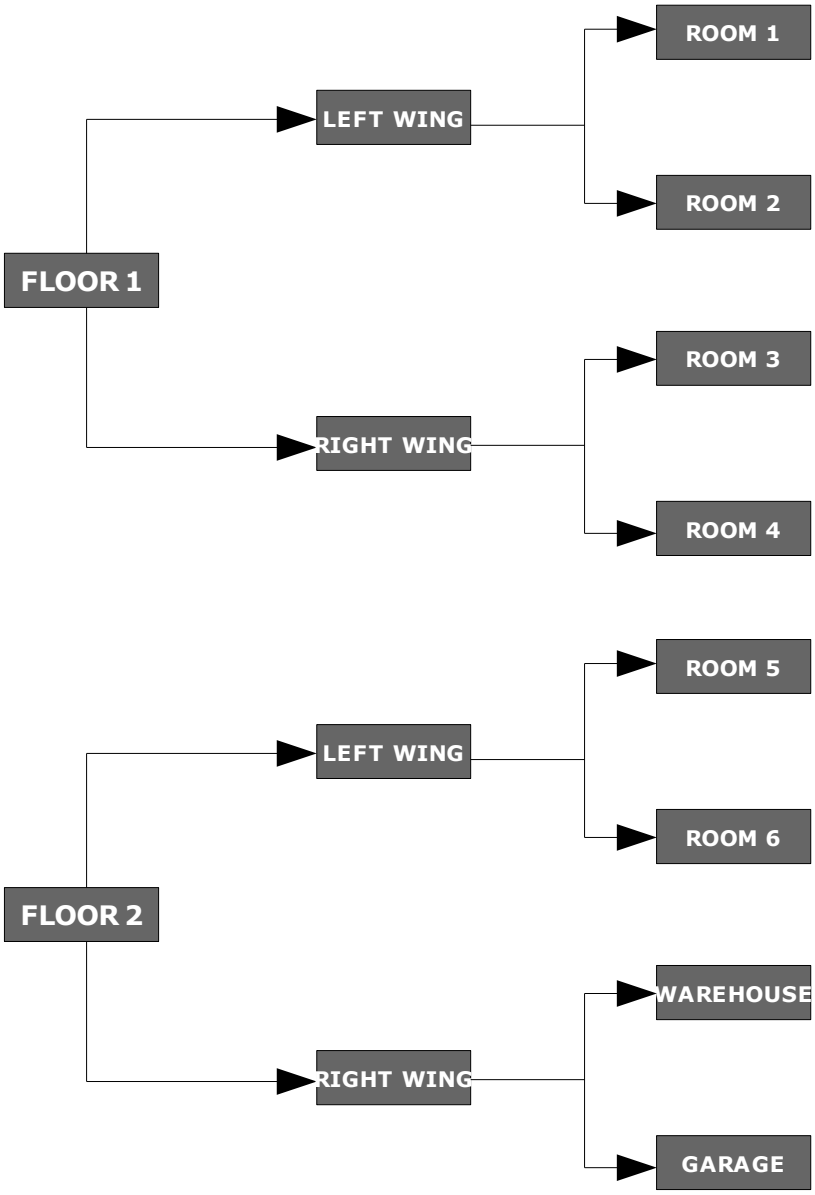
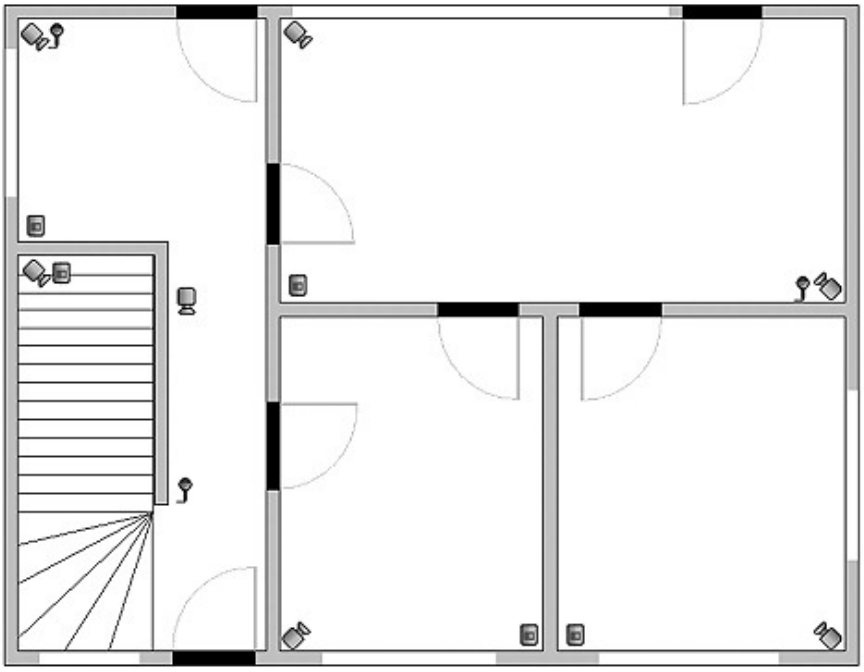


Figure 26: Example of E-map structure

Figure on the next page shows an example of e-map editor with already placed indicators.

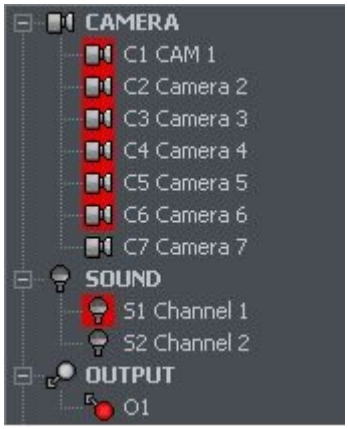


In the main part there is a rooms schema with visible cameras, digital inputs and outputs and sound channels. By clicking on the map area with right mouse button we can change the name and background of current level and add new level (properties menu). When adding new level it is necessary to check which object is selected on the list. As an example – if we try to add a floor, it is necessary to select **Building** object, if we try to add rooms on the 1st floor , object **1st floor** should be selected.

In the top left corner the panel with a tree of objects is placed. In the example above, **Building** object is divided into 2 floors. Different elements are assigned to the floors. Selecting one of the objects will result in displaying its schema. By clicking with right mouse button a context menu will appear:

Option	Description
Raise item	Moves selected item one position up. When the whole "branch" is selected it will be moved with all its elements
Lower item	Th same as the action described above but one position down
Delete item	Deletes selected element
Properties	Properties of selected item. When the "branch" is selected it will be possible to change its name and graphic plan. When the camera, input etc. is selected it is possible to change the type of displayed icon

Below the panel with "tree" schema the list of available devices (cameras, microphones etc.) is placed. These devices can be easily placed on the e-map plan by drag&drop method. Red background means that the indicator is already placed on the map.



In the top right corner of the window **E-map layout** button is placed. It displays all available e-map layouts along with cameras. One of nine possible layouts can be chosen. The light area indicates that the e-map will be displayed in this particular place. The last icon allows to display e-map on the separate monitor[1].

When the e-map project is ready it can be saved and then loaded after the re-installation. To do this use two buttons placed in the lower right corner: **Import e-maps** and **Export e-maps**.

1 If multi-display graphic card is in use

4.4 Output buttons

The function allows selecting the relay output buttons, which will be displayed on the right sidebar of the program, and assigning them to particular relay outputs of VDRS server.

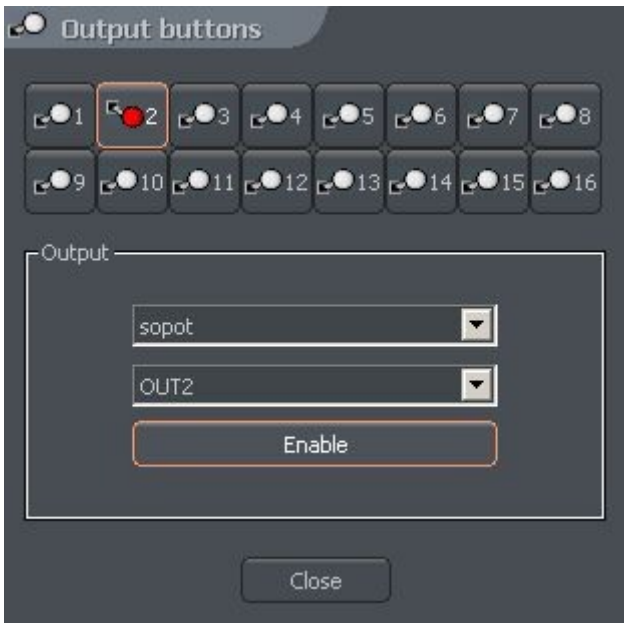


Figure 27: Output buttons

The configuration above means, that button

is defined as **OUT2** output of the **sopot** server and will be displayed on the right sidebar of the program.

4.5 Input buttons

The function allows selecting the alarm input buttons, which will be displayed on the right sidebar of the program, and assigning them to particular alarm inputs of VDRS server.

Figure 28: Input buttons

The configuration above means, that button is defined as **IN1** input of the **sopot** server and will be displayed on the right sidebar of the program.

4.6 Save settings

The function saves actual program configuration. It is highly recommended to save configuration after every configuration change.

4.7 Help

About... - window contains the information about the manufacturer of the software and program version number.